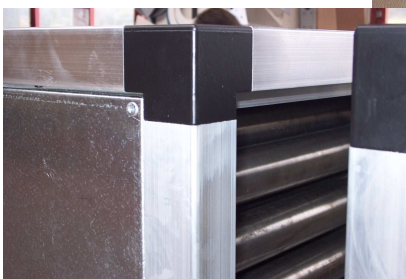
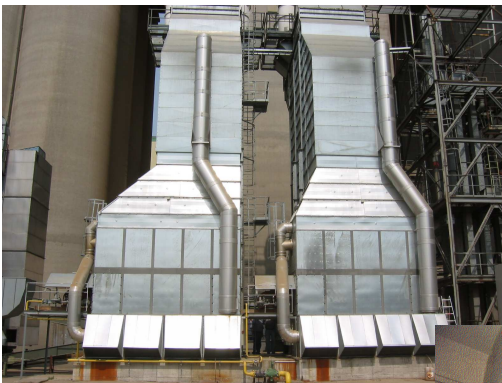




**GAS-FIRED AIR HEATERS  
AIR-HANDLING SPECIAL DESIGNS  
GAS-FIRED AIR-HANDLING UNITS**



Long-established Czech MTP gas-fired air heaters have an extensive range of use. Our company manufactures air heaters that are intended for all fields of gas-fired air heating. These direct air heaters are designed for air transport and treatment in heating and ventilation systems.

### **Advantages of MTP units**

- **Quick and easy heating**
- **High efficiency**
- **High level of reliability**
- **Low operating and investment costs**
- **Environmentally designed operation**



### **Basic characteristics of MTP units**

**Heat load: 20 – 5 000 kW**  
**Air volume: up to 120 000 m<sup>3</sup>/h**

The heat load of standard air heaters and MTP units ranges from 20 to 1500 kW, upon request is it also possible to deliver air heaters with heat load up to 5000 kW. The air volume distributed through a basic set of MTP units ranges from 1 500 to 80 000 m<sup>3</sup>/h.



The core of a MTP air heater is a flue-gas – air exchanger, designed from selected materials according to the intended way of use in order to ensure the maximum efficiency and lifetime of the air heater.

Bypass of the exchanger is supplied by air, delivered by centrifugal bilateral suction fans.

As a heating medium for MTP air heaters can serve natural gas, propane butane and light heating oil, heating oil or other fuels. Standard air heaters are fitted with top-class Weishaupt burners.

MTP units are built to supply heated air. They are designed for heating, ventilation and technical purposes and can be used for a number of applications. Most frequently are they employed for industrial heating and ventilation – warehouses, shop floors and the like. Other typical applications include heating and ventilation of shops, hypermarkets, restaurants, community centers, cafeterias etc. Bypass designs of air heaters are used also for heating and ventilation of office buildings.

The technical field is also of note – units are manufactured in various designs intended for paint shops and spray booths, drying and baking lines, surface treatment technologies and special manufacturing.



## **Compact air heaters – heating**

MTP air heaters have an integral self-supporting welded construction, which accommodates exchanger and fans. The advantages of this design are small space requirements for the unit, high durability and broad variability. These air heaters are available both in horizontal and vertical designs, they can be put in under the ceiling or at any arbitrary place – no additional frame is necessary.



Centrifugal fan (event. double centrifugal fan) is situated in the frame of the unit just before the combustion chamber. Units can be delivered in designs with high-temperature or ventilation bypass that are usually external. The fan part of the unit also usually serves as a mixing chamber and can be fitted with filters, valves, suction grids and other accessories.

Compact MTP air heaters are used primarily for heating due to their compactness and favorable price in comparison to the installed heat load. The temperature difference of the suction and exhaust air comes usually to the extreme of approx. 45°C. The air heater sucks the fresh air, circulating air or most frequently a combination of both. The air can be delivered through ductwork or it can be sucked directly from the

environment, where the heater is placed – that means that either indoor or outdoor air can be directly drawn in. The air is usually distributed through a simple ductwork.

Compact heaters are used mainly in reconstructed shop floors and shops, warehouses, car repair services, overpressure sports arenas and other spaces with moderate ventilation requirements.

## **Modular MTPAL ventilation and heating units**

Modular MTPAL ventilation and heating units are primarily intended for spaces with greater ventilation requirements, where the temperature of the delivered air does not frequently exceed 22°C.

These units are manufactured in block and chamber designs. The frames of the units consist of aluminum sections; the boards are 45 mm thick and are filled with mineral wool. The units are manufactured only in horizontal designs, with a support frame.

Gas-fired air heating components are always equipped with a ventilating valve bypass. The fans are placed on vibration

insulators.

The units are complemented with a basic set of pocket filters, valves, mixing chambers and other standard accessories.

The complete construction of units corresponds fully with the current modern construction trend and the complete unit meets all heating and ventilation systems requirements for the most demanding operations.

The bypass design allows precise regulation of exhaust temperature. This makes it feasible to use the units in spaces with high air exchange (paint shops) as well as in office buildings.

MTPAL units are often installed outdoors for ventilation and heating of new, perfectly insulated shop floors or supermarkets; they work as natural air-handling units for spray booths, spaces with great technical air requirements (galvanizing plants, foundry plants etc.) and finally, they are commonly used for kitchen and gym ventilations.



## Design for high outlet temperatures

A special design of compact MTP air heaters is intended for air treatment for technical purposes, where high outlet temperatures are required. This design is most frequently used in paint shops, galvanizing plants, drying plants etc. The required high outlet temperatures are achieved with a bypass. These designs of MTP units can reach outlet temperature up to 350°C.



## Special designs

ICS-Praha s.r.o. also delivers special designs of air-handling units for technical purposes, with parameters entirely satisfying customer's needs. With an additional double bypass it is possible to regulate the exact temperature of the outlet air ( $\pm 0.5$  °C) and the pressure in the heated space ( $\pm 1$  Pa). The units can be used as a source of hot air when preparing aggregate in concrete batching plants, where pressure in the range of kilopascals is needed.

Air-handling MTP units can be adapted for a given specific task to meet almost all demands for hot air supply.

## Exchangers and exchanger components

ICS-Praha s.r.o. delivers also own exchangers and exchanger components of MTP air heaters used in air-handling units and air-conditioning systems manufactured by well-known companies. The primary advantage of MTP exchangers is a high efficiency, achieved by its unique construction and high quality design. Another advantage is a separated combustion and air-handling circuit, which makes it possible to utilize recirculated air.

In addition, the use of an exchanger component of a MTP air heater is the cheapest modification alternative for an old steam or water heater.



### **REFERENCE:**

TOYOTA Kolín  
AOYAMA Lovosice  
TOKAI-RIKA Lovosice  
Slovácké Strojírny Uherský Brod  
Rautenbach Žiar nad Hronom  
AKUMA Mladá Boleslav  
TESCOMA Zlín  
FUTABA Havlíčkův Brod  
Vagónka Česká Lípa

Olympia Teplice, Plzeň  
Hypernova Průhonice  
AUPARK Bratislava  
TESCO Košice, Bratislava  
KFC restaurace  
Mc Donald's restaurace  
Electroworld Černý Most  
Sportovní areál HAMR Záběhlíce